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10/582,675

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Midori Shimura

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32172

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07/16/2009

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EXAMINER

TRUONG, DUC

ART UNIT

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1796

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DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



### DETAILED ACTION

Claims 11-15 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected inventions, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 06/26/09.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-6 and 9-10 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over JP09-221539 of record on 1449.

The reference discloses a biodegradable, shape memory resin which is polylactic acid type resin. The polylactic acid type resin is molded into a specific shape to be memorized at or above the melting point of the resin and the obtained molding is deformed at a temperature lower than the molding temperature. The deforming molding

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is cooled to a temperature lower than the glass transition temperature of the resin to obtain a deformed shape memory molding having the deformation fixed.

The disclosure of the reference differs from the instant claims in that it does not disclose the claimed characteristics such as  $T_g$ ,  $T_d$  and the equation discloses the relationships between them.

However, the composition disclosed by the reference is prepared from reactants and under process conditions that are inclusive in the claimed reactants and conditions. In view of this similarity, it would appear that the  $T_g$ ,  $T_d$  and the equation must be considered inherent in the prior art.

See *In re Best*, 195 USPQ 430, 433 (CCPA 1977).

Claims 2 and 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 09-221539 in view of Engle et al ( A review of thermally controlled covalent bond formation in polymer chemistry), they are of record on 1449

JP-09-221539 discloses a biodegradable, shape memory resin, as stated above.

The disclosure of the reference differs from the instant claims in that it does not disclose the type of reaction, as in the claims.

However, the reference does disclose the use of polylactic acid and under thermoreversible reaction, but the type of the reaction is not mentioned.

Engle discloses that the thermoreversible reactions are performed by Diels-Alder reaction, nitroso dimerization reaction, ester formation, urethan formation--.

The person of ordinary skill in the art would be motivated to form the shape memory resin, as disclosed in JP-09-221539, employed the types of the reactions, as

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disclosed in Engle, in order to gain the advantages of the combination of the references, that being a thermally controlled covalent linkage formation for use in thermally reversible polymer in a shape memory resin.

The determination of said thermoreversible reaction, as disclosed in Engle, in the formation of a shape memory resin, as disclosed in JP-09-221539, to have the added properties, would not provide any unexpected results to one of ordinary skill in the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duc Truong whose telephone number is 571-272-1081. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Duc Truong/  
Primary Examiner, Art Unit 1796